

AMENDMENTS TO THE CLAIMS:

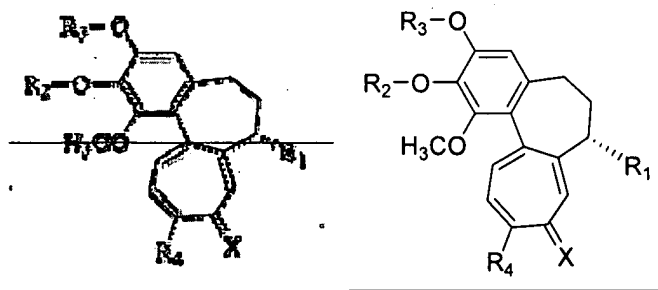
This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of the Claims:

1-11. (Canceled)

12. (Currently Amended) A tricyclic derivative represented by the following <Formula 1> or pharmaceutically acceptable salts thereof:

<Formula 1>



wherein

(1) R_1 is $-T_1-B_1$;

wherein

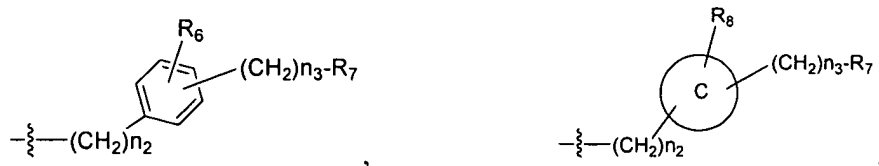
T_1 is $-X_1-$, $-X_1-C(X_2)-$, $-N(R_5)-$, $-N(R_5)C(X_2)-$, $-N(R_5)S(O)_{n_1}-$, $-N(R_5)C(O)-X_1-$ or $-N(R_5)C(X_1)NH-$,

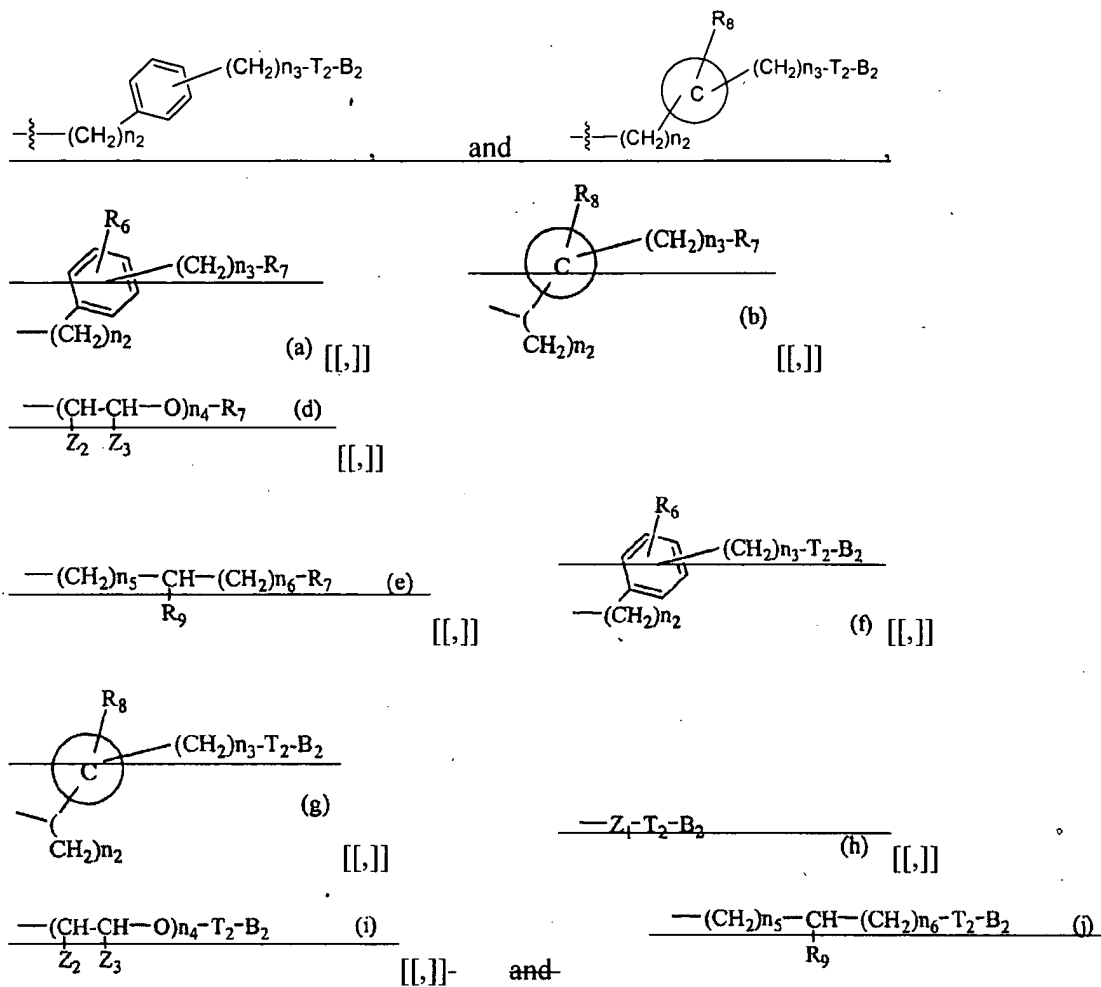
wherein

X_1 and X_2 is are O or S; and

R_5 is H or $C_1 \sim C_5$ alkyl group, n_1 is an integer of 1-2; and

B_1 is selected from the group consisting of



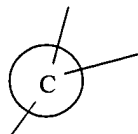


wherein,

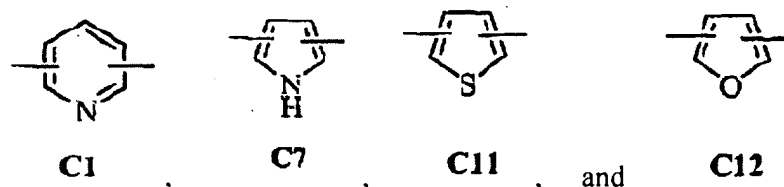
R_6 is halogen, hydroxy, C_1 - C_3 alkoxy, amino, nitro, cyano or C_1 - C_3 lower alkyl group;

R_8 is H, halogen, hydroxy, C_1 - C_3 alkoxy, amino, nitro, cyano or C_1 - C_3 lower alkyl group;

R_7 and R_9 are each is halogen, hydroxyl, mercapto, -ONO, ONO_2 or SNO_2 , in which R_7 and R_9 are same or different;



is selected from the group consisting of



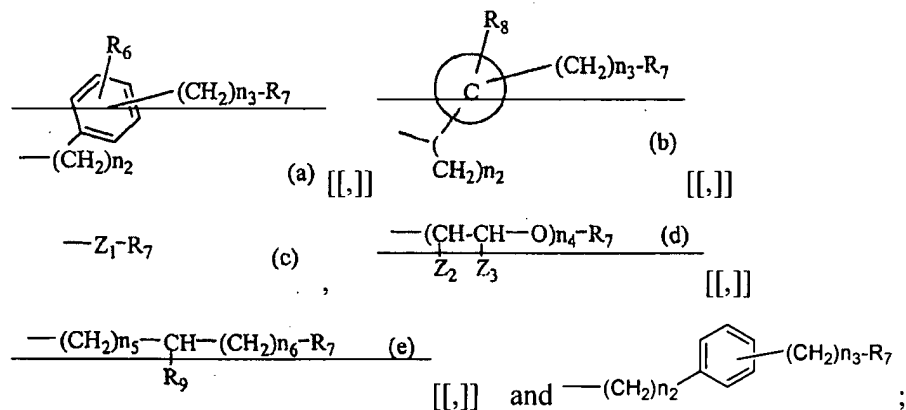
wherein, C1 (pyridyl group) substituted at position 2 and 6 or position 2 and 5, C7 (pyrrolyl group) substituted at position 2 and 5 or position 2 and 4, C11 (thiophenyl group) and C12 (furan group) a C₅-C₆-membered saturated or unsaturated heterocyclic ring containing 1-2 of hetero atom, in which the hetero atom is selected from a group consisting of O, S and N;

Z₁ is C₁-C₁₀ straight-chain or branched-chain alkyl group;

Z₂ and Z₃ are each independently H or methyl group, in which Z₃ is H when Z₂ is methyl group, Z₂ is H when Z₃ is methyl group;

T₂ is -X₁- or -X₁-C(X₂)-, in that X₁ and X₂ are each independently O or S;

B₂ is selected from the group consisting of:



n₂ is an integer of 0-3; and

n₃ is an integer of 1-5;

n₄ is an integer of 1-5; and

n₅ and n₆ are each independently an integer of 1-6;

(2) R₂ and R₃ are each independently H, -PO₃H₂, phosphonate, sulfate, C₃-C₇ cycloalkyl, C₂-C₇ alkenyl, C₂-C₇ alkynyl, C₁-C₇ alkanoyl, C₁-C₇ straight-chain or branched-chain alkyl or sugar, in which sugar is a monosaccharide such as glucuronyl, glucosyl or galactosyl;

(3) R_4 is OCH_3 , SCH_3 or $NR_{10}R_{11}$, in which R_{10} and R_{11} are each independently H or C_{1-5} alkyl; and

(4) X is O or S.

13. (Currently Amended) The tricyclic derivative or pharmaceutically acceptable salts thereof as set forth in claim 12, wherein

~~T_4 is $N(R_5)C(X_2)$, $N(R_5)C(O)X_4$ or $N(R_5)C(X_4)NH$, wherein X_4 and X_2 are each O, n_4 is an integer of 1-3;~~

~~n_5 and n_6 are each independently an integer of 1-3;~~

R_2 and R_3 are each independently C_3 - C_7 cycloalkyl or C_1 - C_7 alkyl; and

R_4 is SCH_3 or OCH_3 .

14-15. (Canceled)

16. (Previously Presented) The tricyclic derivative or pharmaceutically acceptable salts thereof as set forth in claim 12, wherein Z_1 is $C_2 \sim C_5$ straight-chain or branched-chain alkyl group or cycloalkyl group having substituent.

17. (Previously Presented) A tricyclic derivative or pharmaceutically acceptable salts thereof, wherein the tricyclic derivative comprises:

1)

6-nitrooxymethyl-N-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-nicotineamide;

2) 5-nitrooxymethyl-furan-2-carboxylic

acid-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-amide;

5) 6-nitrooxymethyl-pyridine-2-carboxylic

acid-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-amide;

6) 5-nitrooxymethyl-thiophene-2-carboxylic acid-[(7S)-1,2,3-trimethoxy-10-methylsulfonyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-amide;

8)

N-[(7S)-3-ethoxy-1,2-dimethoxy-10-methylsulfonyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-2-fluoro-3-nitrooxymethyl-benzamide;

9)

2-fluoro-N-[(7S)-3-isopropoxy-1,2-dimethoxy-10-methylsulfonyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-3-nitrooxymethyl-benzamide;

10)

2-fluoro-3-nitrooxymethyl-N-[(7S)-1,2,3-trimethoxy-10-methylsulfonyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-benzamide;

11)

N-[(7S)-3-cyclopentyloxy-1,2-dimethoxy-10-methylsulfonyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-2-fluoro-3-nitrooxymethyl-benzamide;

12)

3-fluoro-5-nitrooxymethyl-N-[(7S)-1,2,3-trimethoxy-10-methylsulfonyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-benzamide;

13)

N-[(7S)-3-ethoxy-1,2-dimethoxy-10-methylsulfonyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-3-fluoro-5-nitrooxymethyl-benzamide;

14)

3-fluoro-N-[(7S)-3-isopropoxy-1,2-dimethoxy-10-methylsulfonyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-5-nitrooxymethyl-benzamide;

15)

N-[(7S)-3-cyclopentyloxy-1,2-dimethoxy-10-methylsulfonyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-3-fluoro-5-nitrooxymethyl-benzamide;

16)

4-fluoro-3-nitrooxymethyl-N-[(7S)-1,2,3-trimethoxy-10-methylsulfonyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-benzamide;

17)

2-fluoro-5-nitrooxymethyl-N-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-benzamide;

18)

3-hydroxy-5-nitrooxymethyl-N-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-benzamide;

19)

3,5-bis-nitrooxymethyl-N-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-benzamide;

20)

2-hydroxy-4-nitrooxymethyl-N-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-benzamide;

21) 4-nitrooxymethyl-thiophene-2-carboxylic acid

[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-amide;

22) 3-nitrooxymethyl-thiophene-2-carboxylic acid

[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-amide;

25) 3-nitrooxybenzoic

acid-5-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl-carbamoyl]-pyridine-2-yl-methylester;

26) 4-nitrooxybutyric

acid-5-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl-carbamoyl]-pyridine-2-yl-methylester;

27) 3-nitrooxymethyl-benzoic

acid-6-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl-carbamoyl]-pyridine-2-yl-methylester;

28) 4-nitrooxybutyric

acid-6-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl-carbamoyl]-pyridine-2-yl-methylester;

- 29) 3-nitrooxymethyl-benzoic
acid-2-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl
-carbamoyl]-phenylester;
- 30) 4-nitrooxybutyric
acid-2-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl
-carbamoyl]-phenylester;
- 31) 3-nitrooxymethyl-benzoic
acid-3-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl
-carbamoyl]-phenylester;
- 32) 4-nitrooxybutyric
acid-3-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl
-carbamoyl]-phenylester;
- 33) 3-nitrooxymethyl-benzoic
acid-3-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl
-carbamoyl]-benzylester;
- 34) 4-nitrooxybutyric
acid-3-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl
-carbamoyl]-benzylester;
- 37)
3-fluoro-5-nitrosooxymethyl-N-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahy
dro-benzo[a]heptalen-7-yl]-benzamide;
- 39)
3-fluoro-5-nitrosothiomethyl-N-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahy
dro-benzo[a]heptalen-7-yl]-benzamide;
- 40)
3-fluoro-5-nitrooxymethyl-N-[(7S)-1,2,3,10-tetramethoxy-9-oxo-5,6,7,9-tetrahydro-benzo[a]hept
alen-7-yl]-benzamide;
- 42)
3-fluoro-N-methyl-5-nitrooxymethyl-N-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9
-tetrahydro-benzo[a]heptalen-7-yl]-benzamide;

43)

2-(3-fluoro-5-nitrooxymethyl-phenyl)-N-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-acetamide; or

44)

2-(2-fluoro-5-nitrooxymethyl-phenyl)-N-[(7S)-1,2,3-trimethoxy-10-methylsulfanyl-9-oxo-5,6,7,9-tetrahydro-benzo[a]heptalen-7-yl]-acetamide.

18. (Previously Presented) An anticancer agent composition or anti-proliferation agent composition comprising the tricyclic derivatives or pharmaceutically acceptable salts thereof as set forth in claim 12 as an effective ingredient and a pharmaceutically acceptable excipient.

19. (Previously Presented) An angiogenesis inhibitor composition comprising the tricyclic derivatives or pharmaceutically acceptable salts thereof as set forth in claim 12 as an effective ingredient and a pharmaceutically acceptable excipient.

20. (Previously Presented) An anticancer agent composition or anti-proliferation agent composition comprising the tricyclic derivatives or pharmaceutically acceptable salts thereof as set forth in claim 17 as an effective ingredient and a pharmaceutically acceptable excipient.

21. (Previously Presented) An angiogenesis inhibitor composition comprising the tricyclic derivatives or pharmaceutically acceptable salts thereof as set forth in claim 17 as an effective ingredient and a pharmaceutically acceptable excipient.